

VALID

Pat. No. 05961623 - 5  
Issue Date: 06/07/04

Group ID: A  
User ID: Tegant

Page 1  
KS: 3,725

Warning [US Reference: Page:12 Posn:2 ]

has an issue date that does not match the patent number

Warning [Pages Of US References:]

page 6 has no references

page 8 has no references

page 10 has no references

Warning [Pages Of Foreign References:]

page 1 has no references

page 2 has no references

page 3 has no references

page 4 has no references

page 6 has no references

page 8 has no references

page 9 has no references

page 10 has no references

page 12 has no references

Warning [Pages Of Other References:]

position 3 on page 8 may be a duplicate because the first 75  
characters are the same as position 4 on page 8

page 1 has no references

page 2 has no references

page 3 has no references

page 4 has no references

page 5 has no references

page 7 has no references

page 9 has no references

page 11 has no references

page 12 has no references

*ENY*

*6/16/01*

CHECK LIST

Rule 47    Continuing Data    PCT    Disclaimer

NO                  YES                  NO                  NO

Microfiche Appendix    CPA tag

NO                  NO

Foreign Priority Claimed: NO

Acknowledged: NO

State Code: OR    Country Code:

Text Endorsement: 09473575.122899

=====

JACKET

| <u>SERIAL NUMBER</u> | <u>FILING DATE</u> | <u>CLASS</u> | <u>SUBCLASS</u> | <u>GAU</u> |
|----------------------|--------------------|--------------|-----------------|------------|
| 09/473,575           | 12/28/99           | 718          | 104             | 2127       |

FOREIGN PRIORITY

Country    Document Number    Date

DISCLAIMER

/ /

TITLE

Method and apparatus for managing resources in a multithreaded processor

MICROFICHE APPENDIX

ASSISTANT EXAMINER:

First:   
Lillian

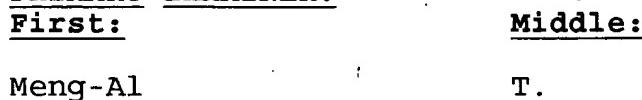
Middle:

Last:

Vo



PRIMARY EXAMINER:

First:   
Meng-Al

Middle:

T.

Last:

An

CLAIMS ALLOWED  
Total Print

15 1

DRAWINGS

Sheets Figures Print

19 19 Y

=====

BLUE SLIP INFORMATION

| <u>SERIAL NUMBER</u> | <u>CLASS</u> | <u>SUBCLASS</u> | <u>GAU</u> |
|----------------------|--------------|-----------------|------------|
| 09/473,575           | 718          | 104             | 2127       |

INDEP. CLAIMS

TOTAL CLAIMS

1 15

=====

BLUE SLIP (Page 1)

INTERNATIONAL CLASSIFICATION  
Class SubClass

G06F 9/46

CROSS-REFERENCES  
Class SubClass

714 100;102;107

=====

TERM EXTENSION

0

FIELD OF SEARCH

Class SubClass

709 107;100;104

712 239;235;217;227;244;219;42;214;36.

718 102;100;104

711 202

OATH

INVENTOR NAME

|                  |                  |                 |                     |
|------------------|------------------|-----------------|---------------------|
| <u>First:</u>    | <u>Middle:</u>   | <u>Last:</u>    | <u>Signed:</u>      |
| Darrell          | D.               | Boggs           | Yes                 |
| <u>City:</u>     | Aloha            |                 |                     |
| <u>State:</u> OR | <u>ZIP Code:</u> | <u>Country:</u> | <u>Foreign ZIP:</u> |

INVENTOR NAME

|               |                  |                     |                     |
|---------------|------------------|---------------------|---------------------|
| <u>First:</u> | <u>Middle:</u>   | <u>Last:</u>        | <u>Signed:</u>      |
| Shlomit       |                  | Weiss               | Yes                 |
| <u>City:</u>  | Haifa            |                     |                     |
| <u>State:</u> | <u>ZIP Code:</u> | <u>Country:</u> ILX | <u>Foreign ZIP:</u> |

PCT INFO

CONTINUING DATA (Page 1)

| <u>LINE</u> | <u>CODE</u> | <u>SERIAL NUMBER</u> | <u>FILING DATE</u> | <u>STATUS</u> | <u>DOCUMENT NO.</u> | <u>ISSUE DATE</u> |
|-------------|-------------|----------------------|--------------------|---------------|---------------------|-------------------|
| 104         | 72          | 09/458,544           | 12/29/1999         | 01            | 6,496,925           | / /               |

REFERENCES (Page 1) SERIAL NUMBER: 09/473,575

FORM 892

U.S. REFERENCES

| <u>U.S. Pat No.</u>      | <u>Date</u> | <u>Patentee</u> | <u>Class</u> | <u>SubClass</u> |
|--------------------------|-------------|-----------------|--------------|-----------------|
| *6,247,121               | 06/2001     | Akkary et al.   | 712          | 239             |
| No issue date available. |             |                 |              |                 |

\*6,182,210 01/2001 Akkary et al. 712 235  
No issue date available.

\*6,357,016 03/2002 Rodgers et al. 713 601  
No issue date available. Rodgers ✓

\*6,496,925 12/2002 Kota et al. 712 244  
No issue date available. ✓

2002/0116600 08/2002 Smith et al. 712 218

2002/0062435 05/2002 Nemirovsky et al. 712 7

2002/0013892 01/2002 Gorishek et al. 712 227

2001/0004755 06/2001 Levy et al. 712 217

FOREIGN REFERENCES

Foreign Doc No.    Date    Country    Class    SubClass

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

REFERENCES (Page 2) SERIAL NUMBER: 09/473,575

FORM 892

U.S. REFERENCES

U.S. Pat No.    Date    Patentee    Class    SubClass

5,179,530 01/1993 Genusov et al. 708 520

FOREIGN REFERENCES

Foreign Doc No.    Date    Country    Class    SubClass

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

REFERENCES (Page 3) SERIAL NUMBER: 09/473,575

FORM 892

U.S. REFERENCES

U.S. Pat No.    Date    Patentee    Class    SubClass

5,623,471 04/1997 Prigge 369 84

2002/0091914 07/2002 Merchant et al. 712 219

5,428,810 06/1995 Barkans et al. 712 42

Pat. No. 05961623 - 5  
Issue Date: 06/07/04

Group ID: A  
User ID: Tegant

Page 5

2003/0009648 01/2003 Doing et al. 711 202

2003/0023835 01/2003 Kalafatis et al. 712 214

FOREIGN REFERENCES

Foreign Doc No. Date Country Class SubClass

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

REFERENCES (Page 4) SERIAL NUMBER: 09/473,575

FORM 1449

U.S. REFERENCES

U.S. Pat No. Date Patentee Class SubClass

5,404,469 04/1995 Chung et al.

5,430,850 07/1995 Papadopoulos et al.

5,499,349 03/1996 Nikhil et al.

\*6,092,175 07/2000 Levy et al.

No issue date available.

\*6,105,127 08/2000 Kimura et al.

No issue date available.

FOREIGN REFERENCES

Foreign Doc No. Date Country Class SubClass

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

REFERENCES (Page 5) SERIAL NUMBER: 09/473,575

FORM 1449

U.S. REFERENCES

U.S. Pat No. Date Patentee Class SubClass

3,771,138 11/1973 Celtruda et al.

5,968,160 10/1999 Saito et al.

FOREIGN REFERENCES

Foreign Doc No. Date Country Class SubClass

352935A2 07/1989 EPX

962856A2

05/1999 EPX

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

REFERENCES (Page 6) SERIAL NUMBER: 09/473,575  
FORM 1449

U.S. REFERENCES

| <u>U.S. Pat No.</u> | <u>Date</u> | <u>Patentee</u> | <u>Class</u> | <u>SubClass</u> |
|---------------------|-------------|-----------------|--------------|-----------------|
|---------------------|-------------|-----------------|--------------|-----------------|

FOREIGN REFERENCES

| <u>Foreign Doc No.</u> | <u>Date</u> | <u>Country</u> | <u>Class</u> | <u>SubClass</u> |
|------------------------|-------------|----------------|--------------|-----------------|
|------------------------|-------------|----------------|--------------|-----------------|

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

Mendelson A. et al., [37 Design Alternatives of Multithreaded

Architecture[38 , International Journal of Parallel Programming, US,

Plenum Press, New York, Jun. 3, 1999, pp. 161-193, vol. 27, No. 3,

Plenum Publishing Corp.

-----

J.A Farrens, M.K. et al., [37 Strategies for Achieving Improved Processor  
Throughput[38 , Proceedings of the Annual International Symposium on  
Computer Architecture, May 1991, pp 362-369, vol. SYMP. 18.

=====

REFERENCES (Page 7) SERIAL NUMBER: 09/473,575  
FORM 1449

U.S. REFERENCES

| <u>U.S. Pat No.</u> | <u>Date</u> | <u>Patentee</u> | <u>Class</u> | <u>SubClass</u> |
|---------------------|-------------|-----------------|--------------|-----------------|
|---------------------|-------------|-----------------|--------------|-----------------|

5,357,617 10/1994 Davis, et al.

5,524,263 06/1996 Griffith et al.

5,791,522 08/1998 Lee et al.

5,996,085 11/1999 Cheong et al.

5,999,932 12/1999 Paul

\*6,052,709 04/2000 Paul

No issue date available.

\*6,115,709 09/2000 Gilmour et al.

No issue date available.

5,809,271 09/1998 Colwell et al.

FOREIGN REFERENCES

| <u>Foreign Doc No.</u> | <u>Date</u> | <u>Country</u> | <u>Class</u> | <u>SubClass</u> |
|------------------------|-------------|----------------|--------------|-----------------|
| 0725335A1              | 01/1996     | EPX            |              |                 |
| 0747816A2              | 05/1996     | EPX            |              |                 |
| 0827071A2              | 08/1997     | EPX            |              |                 |
| 0346003A2              | 06/1989     | EPX            |              |                 |
| WO99/21082             | 04/1999     | WOX            |              |                 |
| WO99/21088             | 04/1999     | WOX            |              |                 |

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

---

REFERENCES (Page 8) SERIAL NUMBER: 09/473,575

FORM 1449

U.S. REFERENCES

| <u>U.S. Pat No.</u> | <u>Date</u> | <u>Patentee</u> | <u>Class</u> | <u>SubClass</u> |
|---------------------|-------------|-----------------|--------------|-----------------|
|                     |             |                 |              |                 |

FOREIGN REFERENCES

| <u>Foreign Doc No.</u> | <u>Date</u> | <u>Country</u> | <u>Class</u> | <u>SubClass</u> |
|------------------------|-------------|----------------|--------------|-----------------|
|                        |             |                |              |                 |

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

R. Guru Prasadh, et al., A Benchmark Evaluation of a Multi-Threaded RISC Processor Architecture, 1991, pp 184-191, National Science Foundation and Cray Research Incorporated.

---

Robert A. Iannucci, et al., Multithreaded Computer Architecture: A Summary of the State of the Art, pp 167-200, Kluwer Academic Publishers, Boston/London/Dordrecht.

---

Proceedings, The 23rd Annual International Symposium on Computer Architecture, May 22-24, 1996, pp 191-202, ACM SIGARCH, IEEE Computer Society, TCCA, Philadelphia, Pennsylvania.

Proceedings, The 23rd Annual International Symposium on Computer Architecture, May 22-24, 1996, pp 203-212, ACM SIGARCH, IEEE Computer Society, TCCA, Philadelphia, Pennsylvania.

Dennis Lee, et al. & Brad Calder, et al., Instruction Cache Fetch Policies for Speculative Execution, pp 1-11, Department of Computer Science.

Simon W. Moore, Multithreaded Processor Design, 1996, pp 1-141, Kluwer Academic Publishers, Boston/Dordrecht/London.

Peter Song, Multithreading Comes of Age, Jul. 14, 1997, pp 13-18, Microdesign Resources.

Ruediger R. Asche, Multithreading for Rookies, Jul. 31, 1998, pp 1-15, Microsoft Developers Network Technology Group.

IEEE Computer Society Technical Committee on Computer Architecture, Second International Symposium on High-Performance Computer Architecture, Feb. 3-7, 1996, pp291-301.

**REFERENCES (Page 9) SERIAL NUMBER: 09/473,575**  
**FORM 1449**

**U.S. REFERENCES**

U.S. Pat No.

Date

Patentee

Class      SubClass

5,892,959

04/1999 Fung

\*6,052,708 04/2000 Flynn et al.  
No issue date available.

\*6,088,788 07/2000 Borkenhagen et al.  
No issue date available.

\*6,212,544 04/2001 Borkenhagen et al.  
No issue date available.

\*6,256,775 07/2001 Flynn  
No issue date available.

FOREIGN REFERENCES

Foreign Doc No. Date Country Class SubClass

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

REFERENCES (Page 10) SERIAL NUMBER: 09/473,575  
FORM 1449

U.S. REFERENCES

U.S. Pat No. Date Patentee Class SubClass

FOREIGN REFERENCES

Foreign Doc No. Date Country Class SubClass

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

Dongwook, Kim, Joonwon Lee, Seungkyu Park, A partitioned on-chip  
virtual cache for fast processors, Journal of Systems Architecture 43,  
1997, pp 519-531, Elsevier, South Korea.

=====

REFERENCES (Page 11) SERIAL NUMBER: 09/473,575  
FORM 1449

U.S. REFERENCES

U.S. Pat No. Date Patentee Class SubClass

5,809,522 09/1998 Novak et al.

FOREIGN REFERENCES

Foreign Doc No. Date Country Class SubClass

0768608A2 04/1997 EPX

Pat. No. 05961623 - 5  
Issue Date: 06/07/04

Group ID: A  
User ID: Tegant

Page 10

0768608A3 04/1997 EPX

0856797A1 05/1998 EPX

2311880A 03/1996 GBX

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

REFERENCES (Page 12) SERIAL NUMBER: 09/473,575  
FORM 1449

U.S. REFERENCES

| <u>U.S. Pat No.</u> | <u>Date</u> | <u>Patentee</u>          | <u>Class</u> | <u>SubClass</u> |
|---------------------|-------------|--------------------------|--------------|-----------------|
| 5,900,025           | 05/1999     | Sollars                  |              |                 |
| *62303599           | 05/2001     | Nation et al.<br>00/1899 |              |                 |

*Dale*

FOREIGN REFERENCES

| <u>Foreign Doc No.</u> | <u>Date</u> | <u>Country</u> | <u>Class</u> | <u>SubClass</u> |
|------------------------|-------------|----------------|--------------|-----------------|
|------------------------|-------------|----------------|--------------|-----------------|

OTHER REFERENCE CITATIONS (incl. Author, Title, Date, Pertinent Pages, etc.)

=====

\*\*\*\*\*